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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,157	08/06/2001	Akira Yamamoto	36992.00074 (HAL-ID-169)	1510
30256	7590	09/09/2005	EXAMINER	
SQUIRE, SANDERS & DEMPSEY L.L.P. 600 HANSEN WAY PALO ALTO, CA 94304-1043			PATEL, ASHOKKUMAR B	
			ART UNIT	PAPER NUMBER
			2154	

DATE MAILED: 09/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/923,157

Applicant(s)

YAMAMOTO ET AL.

Examiner

Ashok B. Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 14-21 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-13 are subject to examination.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Carini et al. (hereinafter Carini) (US 6, 636, 873 B1).

Referring to claim 1,

Carini teaches a system comprising:

A plurality of data centers, including a first data center (Fig. 4, element 420) and a second data center, (Fig. 4, elements 406-410) each data center comprising:

- a. Storage system;(Fig 4, elements 420, 406-410 and 404) and
a host server (Fig 4, element 420);

a directory server (Fig 4, element 404);

at least one of a plurality of access gateways(Fig 4, element 402);

a network (Fig 4, element 416) interconnecting said plurality of data

centers, said directory server and said access gateway; wherein

responsive to input received via any of said at least one of plurality of access gateways, any of said plurality of data centers may be configured as a primary (source) of data, and any of said plurality of data centers may be configured as a secondary (target) of data in a copy operation (col. 6, line 12-25, line 54-61)

Referring to claim 2,

Carini teaches the system of claim 1, wherein, responsive to said input received via any of said at least one of a plurality of access gateways, information about said first data center and said second data center is fetched from said directory server, (col.6, line 12-25) and thereupon, said first data center maybe configured as a primary (source) of data, and said second data center may be configured as a secondary (target) of data in a copy operation. (col. 6, line 54-61)

Referring to claim 3,

Carini teaches the system of claim 2, wherein, responsive to a second input received via any of said at least one of plurality of access gateways, said first data center may be reconfigured as a secondary (target) of data, and said second data center may be configured as a primary (source) of data in a second copy operation. (col. 6, line 54-61).

Referring to claim 4,

Carini teaches the system of claim 3, wherein copy operations are synchronous said first data center updating contents of storage from contents of a cache memory prior to being reconfigured to as a secondary (target) in said second copy operation. (col. 6, line 54-61, caching is inherent).

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Referring to claim 5,

Carini teaches the system of claim 2, wherein said information fetched from said directory server (Fig. 4, element 404, col. 6, line 12-25) comprises proximity information for a source of said input received via said at least one of a plurality of access gateways, (col. 6, line 5-11) and wherein said first data center is configured as a primary (source) of data, and said second data center is configured as a secondary (target) of data in said copy operations based upon said proximity information. (col. 6, lines 12- 25)

Referring to claim 6,

Carini teaches the system of claim 2, wherein said plurality of data centers further comprises a third data center, said third data center being configured as another secondary (target) of data in a copy operation. (Fig 4, elements 420, 406-410 and 404)

Referring to claim 7,

Carini teaches the system of claim 1, further comprising a network interface that provides connection between at least one of plurality of access gateways and a use terminal. (col. 6, line 42- 53)

Referring to claim 8,

Carini teaches the system of claim 1, wherein information associated with a virtual volume is stored in a plurality of real volumes in said storage system. (col. 5, line 24-30)

Referring to claim 9,

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Carini teaches the system of claim 8, wherein a correspondence between said virtual volume and said plurality of real volumes in said storage system is stored in said directory server. (col. 5, line 24-30, col. 6, line 26-30)

Referring to claim 10,

Carini teaches the system of claim 1, wherein a storage volume from said first data center and a storage volume from said second data center comprise a copy volume group. (col. 6 , line 42- 63)

Referring to claim 11,

Carini teaches the system of claim 1, said directory server further comprising a log in process and a virtual volume information. (col. 7, line 55- 60, col. 8 line 39- 65)

Referring to claim 12,

Carini teaches the system of claim 1, said host server further comprising a copy volume group interface process, a read request issue process, and a write request issue process. (col. 6, line 42- 66)

Referring to claim 13,

Carini teaches a method, comprising:

receiving a virtual volume name and network interface ID for a user;(col. 7, line 55-60)

finding a virtual volume corresponding to said virtual volume name and network interface ID; (col. 6, Line 42- 66)

selecting a real volume information corresponding to a data center to which said user is logged into; (col. 6, line 12-25)

determining whether said data center is primary (col. 6, line 12-25, line 54-61)

if said data center does not contain primary volume, issuing a request to change a volume within said data center to be primary; and returning a real volume information for said volume within said data center set to primary. (col. 6, line 12-25)

Conclusion

Examiner's note: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant.


Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashok B. Patel whose telephone number is (571) 272-3972. The examiner can normally be reached on 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A. Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2

Abp
